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HANDBOOK ON SANITATION OF DINING CARS IN OPERATION. STANDARDS OF SANITATION FOR OPERATION AND MAINTENANCE OF FOOD AND DRINK SERVICE FACILITIES ON RAILROAD PASSENGER CARS

Public Health Service
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HANDBOOK
ON SANITATION OF

Dining Cars in Operation

1959 Revision

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service

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STANDARDS OF SANITATION
FOR OPERATION AND MAINTENANCE
OF FOOD AND DRINK SERVICE FACILITIES
ON RAILROAD PASSENGER CARS

Details of illustrations in this document may be better studied on microfiche

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Public Health Service

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DIVISION OF ENGINEERING SERVICES

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Related Publications:

Railroad Passenger Car Construction
(PHS Pub. No. 95)

Railroad Servicing Areas
(PHS Pub. No. 66)

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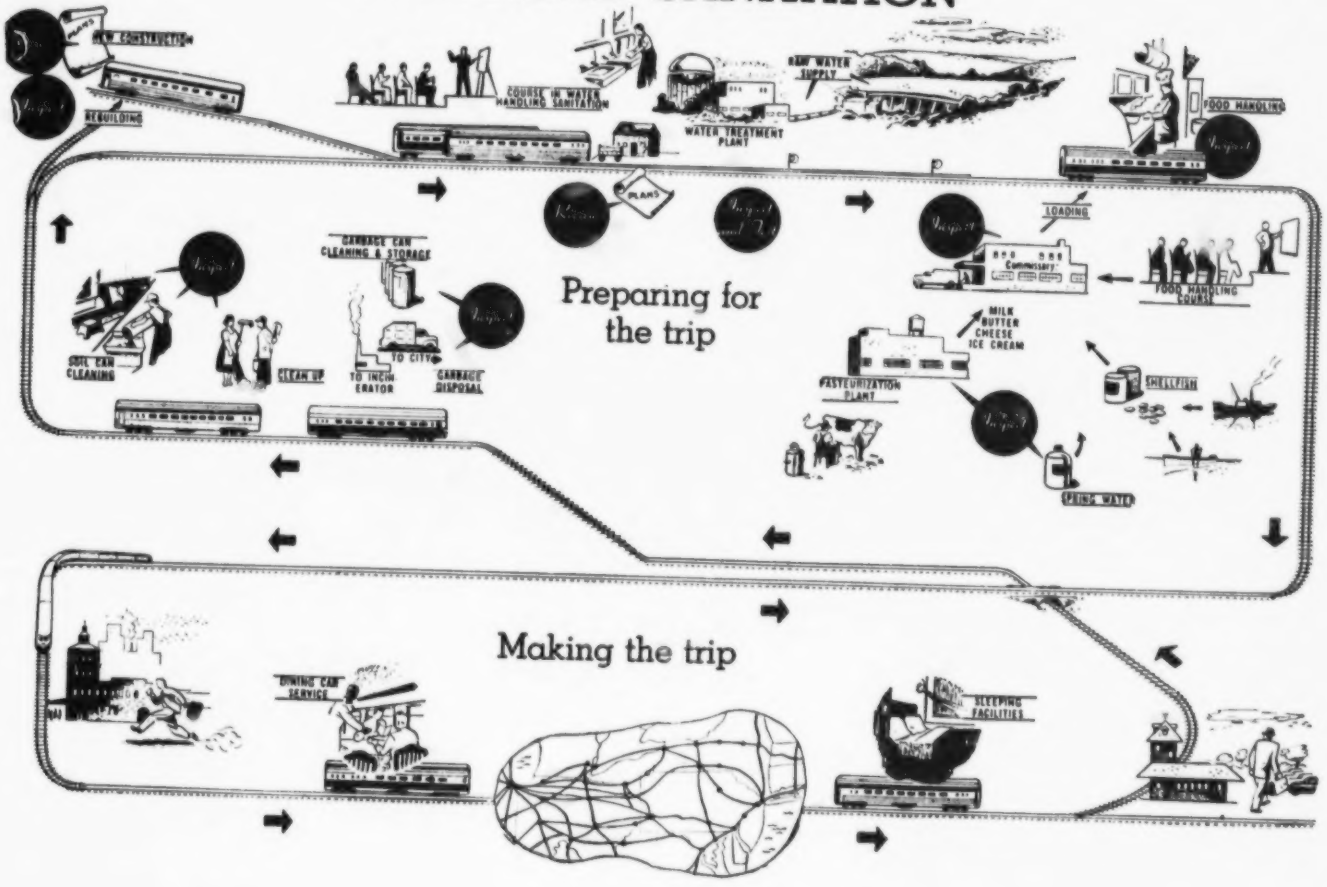
RAILROAD SANITATION



FOREWORD

Because food may be harmful to the consumer if it is not clean, wholesome, free of spoilage, and properly prepared, sanitation in railroad dining cars, as in other eating places, is of considerable public health importance. Numerous outbreaks of disease traceable to food occur annually. Many of these outbreaks could have been prevented if recognized principles of sanitation had been observed. This handbook is designed, therefore, to serve as a guide to those persons who must apply these principles to dining car operation and maintenance.

This publication was prepared by the Interstate Carrier Section, General Engineering Program, of the Division of Sanitary Engineering Services, Public Health Service, and is one of a set of three handbooks on the subject of railroad sanitation. The others are entitled "Railroad Passenger Car Construction" and "Railroad Servicing Areas." "Railroad Passenger Car Construction" is concerned with the incorporation of sanitation features into the design and construction of these conveyances. It places particular emphasis on dining cars. "Railroad Servicing Areas" prescribes certain sanitation features which may be incorporated into the design, construction, and operation of facilities used for servicing railroad passenger cars.

It should be understood at the outset that the standards appearing on the following pages, although not having the legal force of the Interstate Quarantine Regulations, were written with a view to conforming to the intent of those regulations. Compliance with the standards, therefore, will insure compliance with the Interstate Quarantine Regulations and amendments. In the event of noncompliance with a standard, however, and failure to correct the reported condition, final corrective action will be based upon the applicability of the regulation concerned. Amendments to the Interstate Quarantine Regulations were considered in the preparation of this handbook.

Insofar as reference to operation of dining cars and maintenance of sanitation facilities thereon is concerned, this handbook supersedes the "Sanitation Manual for Land and Air Conveyances Operating in Interstate Traffic," Reprint No. 2444, from Public Health Reports of January 29, 1943.

The Joint Committee on Railway Sanitation of the Association of American Railroads, and the Association of American Railroad Dining Car Officers have been extremely helpful in reviewing the preliminary draft of this handbook. Their suggestions have made it possible to produce a more practical handbook than might otherwise have been possible.

Improved methods and equipment, undoubtedly, will be developed from time to time and will require changes in the application of existing standards. These developments will be noted and, as circumstances require, supplements to or revisions of this handbook will be issued.

DINING CARS IN OPERATION [1]

1. FLOORS. The floors of all dining cars should be kept clean and free of refuse. Floor racks, if used, should be cleaned daily and should be removed from the car for thorough cleaning at terminal points or upon completion of each trip.

Dustless methods of floor cleaning should be employed, and all except emergency floor cleaning should be done during those periods when food and drink are not exposed. It is important that removable drain caps be replaced after cleaning.

2. WALLS AND CEILINGS. The walls, ceilings, and exposed surfaces of pipes, tanks, windows, ventilating equipment, etc., of dining cars should be kept clean.

In areas where food or drink is prepared or stored, walls and ceilings should be smooth, light in color, and washable. Seams or joints should be tight to prevent insect infestation. Open seams should be filled and finished to a smooth surface. Openings to spaces on walls should also be sealed if they cannot be reached for cleaning.

3. DOORS AND WINDOWS. When flies are prevalent, measures should be taken to prevent their entrance into dining cars. When the car is in motion, outside doors and windows should be kept closed to reduce dust infiltration to a minimum.

4. LIGHTING. Light fixtures should be kept clean and should be used in sufficient numbers to produce at least 10 foot-candles of light on all working surfaces. At least 4 foot-candles of light should be provided in refrigerators and at the floor level in all walking areas of the kitchen and pantry. Light fixtures should be kept in good repair and burned-out bulbs replaced at first layover point.

5. VENTILATION. Odors, condensation, and excessive heat should be controlled through proper use of ventilating equipment. The practice of opening doors or windows on moving trains to achieve adequate ventilation is considered unsatisfactory.

6. TOILET FACILITIES. Toilet facilities used by the dining car crew should be kept clean and the room should be kept free of flies. Toilet facilities should be adequate and conveniently located. In the case of a dining car not in a train, but with a crew on board, adequate toilet facilities shall be available to the crew within a reasonable distance.

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[1] The term "dining car" as used in this handbook means any railroad passenger car on which food or drink is regularly prepared, stored, or served.

Clean, safe food, well served, in a pleasant atmosphere.

Toilet facilities should comply with acceptable plumbing standards and should be maintained in good repair. The room in which the facilities are located should be well lighted and ventilated. If the toilet room opens directly into food service or food preparation areas, it should be provided with a self-closing door.

7. WATER. Water used for drinking and culinary purposes aboard the car should be obtained only from a watering point approved by the Public Health Service and should be protected against contamination. Tanks should be drained and flushed with potable water at least once each month. Records showing the date and location of flushing should be kept on the car and be readily available for inspection.

8. HANDWASHING FACILITIES. Handwashing facilities should be kept clean and used only for the washing of hands or face. Soap and individual towels should be convenient to handwashing facilities. While preparing or serving food, employees should keep their hands clean. No employee should resume work without first washing his hands after visiting the toilet or engaging in any other activity which might have contaminated his hands. Frequent use of handwashing facilities is essential to the personal cleanliness of food handlers and constitutes a barrier to the spread of disease-producing bacteria. Where a permanent or semipermanent partition is provided between the kitchen and pantry of a dining car, lavatories should be provided in both areas. The use of a folddown serving board between the kitchen and the pantry will not be interpreted as constituting a permanent or semipermanent partition, provided there is no storage of cans, bags, boxes, etc., beneath the board to impede passage. Handwashing facilities should be maintained in good repair.

9. UTENSILS AND EQUIPMENT. All multiuse utensils and equipment shall be so constructed as to be easily cleaned and shall be kept in good repair. Food contact surfaces should be accessible for cleaning, self-draining, smooth, nontoxic, corrosion-resistant material, and shall be kept free of breaks, corrosion, open seams, cracks, and chipped places. Utensils containing or plated with cadmium, antimony, zinc, or lead shall not be used; however, solder containing no more than 5 percent lead may be used for jointing. The use of any type of equipment which normally permits food or drink to come in contact with V-type threaded surfaces is unsatisfactory.

Joints and seams within equipment and between various units of equipment should be smooth, easily cleanable, and without cracks or crevices. Unnecessary ledges should be eliminated. All internal corners of equipment should be rounded with a minimum radius of one-quarter inch, and edges should be finished smooth. Gaskets should be of nonabsorbent material and kept in good repair.

Where possible, equipment appearing on the "List of Acceptable Interstate Carrier Equipment Having Sanitation Significance" should be used.

10. SANITIZATION. a. Cleaning of Equipment. Cabinets, lockers, counters, shelves, tables, refrigerators, stoves, hoods, tray racks, sinks, dishwashing machines, and other equipment should be kept clean and free from dust, dirt, and other contaminating material.

b. Cleaning of Utensils. All multiservice eating and drinking utensils should be thoroughly cleaned after each use. All multiuse utensils, including cutting boards and meat blocks, used in the preparation and serving of food and drink should be thoroughly cleaned immediately following each food service period. They should be clean to sight and touch. A balanced detergent should be used.

Wash water in sinks and dishwashing machines should be kept reasonably clean through frequent changes.

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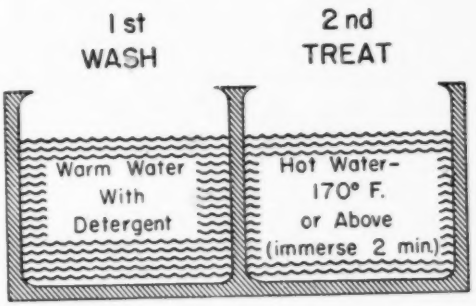
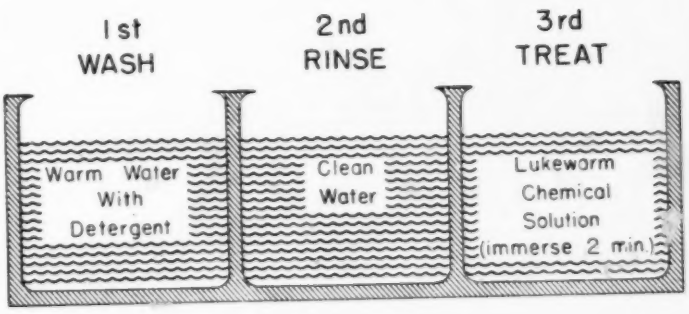
HAND DISHWASHING PROCEDURES

SANITIZING WITH HOT WATER REQUIRES 2 STEPS



SANITIZING WITH CHEMICALS REQUIRES 3 STEPS



No article, polish, or other substance containing any cyanide preparation or other poisonous or toxic material should be used for cleaning or polishing utensils.

Single service articles such as paper cups, plates, straws, etc., should be used only once, and packages should be opened in such a manner that food or drink contact surfaces will not be handled.

If used, can openers should be cleaned after each meal.

Cloths used by employees and all tablecloths and napkins should be clean. Used napkins should not be used as dishcloths. Because they tend to become soiled quickly, cutting boards, meat blocks, etc., with which food often comes in contact, should be given special attention in cleaning operations.

c. Bactericidal Treatment of Eating and Drinking Utensils.

A. After multiuse eating and drinking utensils have been thoroughly cleaned, they should be subjected to one or more of the following procedures for proper bactericidal treatment:

(1) By immersion of the utensil or equipment for at least 2 minutes in clean hot water at a temperature of at least 170° F. or for one-half minute in boiling water.

If hot water is used as the bactericidal agent, a two-step operation at least is necessary. After the utensils or equipment have been washed, they should be placed in a long-handled wire basket and immersed in water of at least 170° F., for a period of not less than 2 minutes, or for one-half minute in boiling water. Where hot water is the bactericidal agent, the treatment compartment should be provided with a thermometer, the scale divisions of which are not more than 2° F., and the accuracy of which is within 2° F. Long-handled wire baskets should be provided if the hot water method of bactericidal treatment is to be employed.

(2) By immersion of the utensil or equipment for at least 2 minutes in a lukewarm chlorine bath containing at least 50 parts per million of available chlorine if hypochlorites are used, or a concentration of equal bactericidal strength if chloramines are used.

If chlorine is used as the bactericidal agent, a three-step operation at least is necessary. After utensils and equipment have been washed, they should be rinsed in clean water, then immersed for at least 2 minutes in a lukewarm chlorine solution containing at least 50 parts per million of available chlorine. Unless utensils and equipment are clean, bactericidal treatment with chlorine will be considered ineffective. The solution in the treatment compartment should contain about 100 p.p.m. chlorine initially, and should be discarded before the strength falls below 50 parts per million. The strength of the chlorine solution may be determined with a test kit. While they are not required, long-handled wire baskets are recommended for the chlorine method of bactericidal treatment.

(3) By exposure of the utensil or equipment in a steam cabinet at a temperature of at least 170° F. for at least 15 minutes or at a temperature of 200° F. for at least 5 minutes;

(4) By exposure of the utensil or equipment in an oven or hot air cabinet at a temperature of at least 180° F. for at least 20 minutes;

(5) Equipment that is too large for immersion may be treated (*a*) with live steam from a hose, when the steam can be confined in the equipment; (*b*) by a boiling water rinse; or (*c*) by spraying or swabbing with a solution of at least 100 parts per million chlorine;

(6) Any other method determined by the Surgeon General, upon application of an owner or operator of a conveyance, to be effective in the bactericidal treatment of utensils and equipment.

B. If a spray-type dishwashing machine is installed, it should be operated so that the utensils are made clean to the sight and touch. The machine should also subject such utensils to effective bactericidal treatment.

Proper use of the dishwashing machine would require, first, that utensils be thoroughly scraped, then placed in racks so that all surfaces of the utensils can be reached by wash water and rinse sprays and drain freely. For effective cleansing of utensils, wash water should contain a suitable detergent and should be maintained at a temperature of about 140° F. Acceptable cleaning results may be obtained with wash periods of at least 20 seconds to 1-minute duration. The bactericidal rinse should be maintained at or above a temperature of 180° F. (measured at the manifold). In a spray-type dishwashing machine, acceptable bactericidal treatment may be obtained with a rinse period of at least 10 seconds.

The wash and rinse jet arms on dishwashing machines should be readily demountable or otherwise accessible for cleaning. A thermometer to indicate the temperature of the rinse water at the spray arm inlet should be provided. While not required, a thermometer to indicate the temperature of the wash water, an automatic detergent dispenser, and thermostatic controls for the wash water and rinse water are desirable.

C. Food cannot be kept clean and safe if it is permitted to come in contact with containers, utensils, and equipment which have not been properly cleaned and effectively treated. If observed, the practices recommended above will help to prevent the spread of diseases.

11. STORAGE AND HANDLING OF UTENSILS. All containers and utensils should be stored off the floor in a clean, dry place to protect them from splash, dust, overhead leakage, condensation, and other contamination. Containers and utensils should be covered, inverted, or stored in enclosed spaces.

Those surfaces of containers and utensils which come in contact with food or drink should not be handled. Fingers should not touch inside surfaces of glasses, cups, dishes, etc., nor the bowls of spoons, tines of forks, or the blades of knives. Any equipment so handled should be subjected to bactericidal treatment before use.

The use of clean, removable towels in drawers, in cabinets, or on shelves is considered satisfactory. Nonremovable felt, or any other type of fixed, porous lining, is not acceptable.

Paper cups, plates, straws, spoons, forks, and other single service containers or utensils should be purchased in new, clean cartons and stored therein in a clean, dry place until used. Once they are removed from the cartons, these articles should be handled with care to avoid contamination.

The use of individually wrapped portions of frozen desserts (ice cream, etc.) is desirable and would eliminate the need for special facilities for storing frozen dessert dispenser utensils. If frozen desserts are to be served from bulk containers, the dipper or dispenser should be kept in running water or in water maintained at or above 170° F. during the meal period. If no dipper well is provided, rinsing the dipper under running water after each use and storing on a clean plate or towel is acceptable. At the end of the meal period, the dipper or dispenser should be cleaned, given bactericidal treatment, and stored in a clean, dry, protected place.

12. DISPOSAL OF WASTES. Garbage which is not disposed of through grinders should be stored in tight, nonabsorbent, and easily washable receptacles. When garbage is being stored therein, the receptacles should be covered unless they are in an enclosed space.

To prevent creation of a nuisance or unsightly conditions, all garbage, trash, and other waste material should be removed from the car as often as necessary. All garbage containers should be thoroughly washed before reuse.

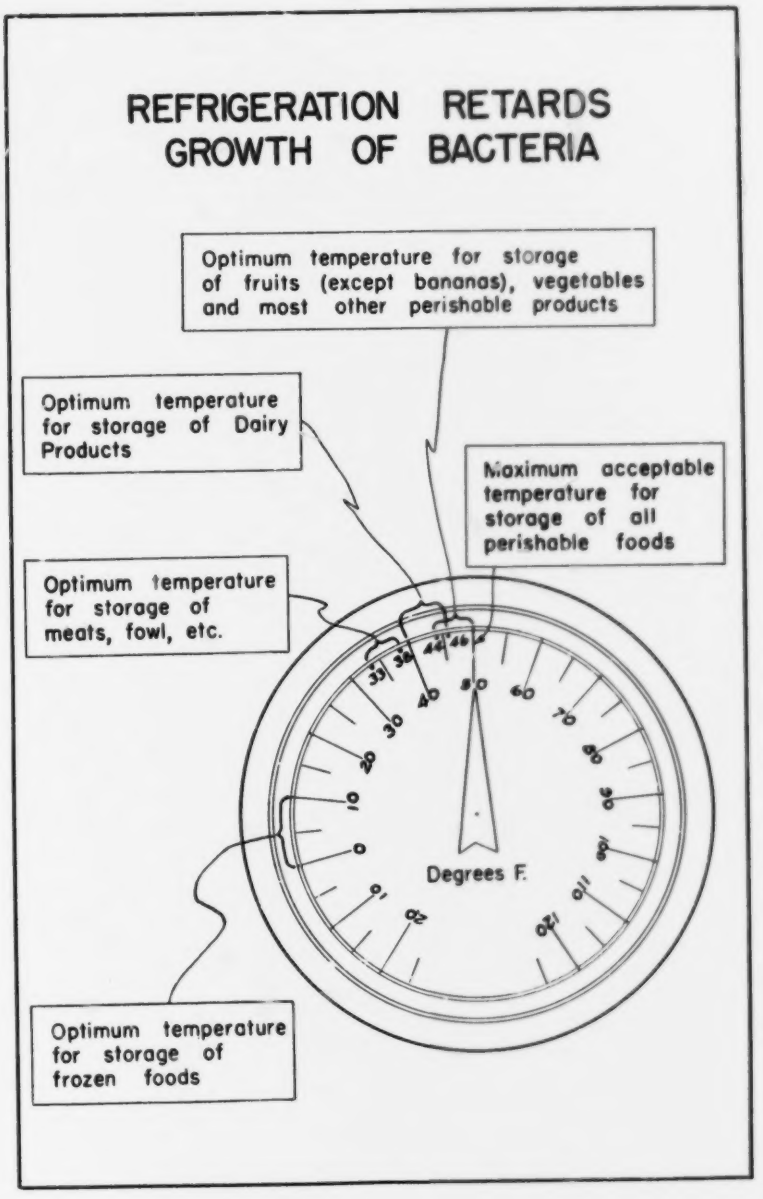
13. REFRIGERATION. All readily perishable food or drink should either be kept hot (at or above 140° F.) or kept cold (at or below 50° F.) except when being prepared or served. Custard-filled and cream-filled pastries, milk and milk products, egg products, meat, fish, fowl, shellfish, gravy, poultry stuffing and sauces, dressings and salads containing meat, fish, fowl, eggs, milk or milk products, are examples of readily perishable foods. Most of these are excellent media for the growth of bacteria. If food is contaminated with disease organisms, the bacteria multiply rapidly at warm temperatures. Proper refrigeration greatly retards the multiplication of bacteria.

Refrigerators for storing readily perishable food or drink should be maintained at a temperature of 50° F. or lower at all times. They should be provided with a thermometer which indicates the temperature in the warmest zone. The thermometer should be located where it can be read without difficulty. Freezers are excluded from this standard.

14. WHOLESOMENESS. a. Foods in General. All food and drink should be clean, wholesome, free from spoilage, and so prepared as to be safe for human consumption. The term "food and drink" includes condiments, dressings, and sauces in addition to other edibles.

All cream-filled and custard-filled pastries should be rebaked (after filling) for 20 minutes at an oven temperature of at least 425° F., and then cooled to 50° F. or less within 1 hour. If this is not feasible, the filling should be heated before the pastry shells are filled, so that every particle of mix is held at a temperature of at least 190° F. for at least 10 minutes.

REFRIGERATION RETARDS GROWTH OF BACTERIA


Optimum temperature for storage of fruits (except bananas), vegetables and most other perishable products
Optimum temperature for storage of Dairy Products
Maximum acceptable temperature for storage of all perishable foods
Optimum temperature for storage of meats, fowl, etc.
Optimum temperature for storage of frozen foods
Degrees F.

Either before or after the pastry shell is filled, the filling should be cooled to 50° F. or less within 1 hour after heating and maintained at that temperature until served.

Foods individually served or dished to a patron, or foods handled or partially consumed by a patron, should not be re-served in any form to any other person. Foods to be heated or reheated for serving should be heated rapidly to serving temperature. They should not be heated to a serving temperature by the use of low heats, such as in a steamtable or bain-marie, as this can provide an incubation period for the growth of bacteria.

b. Fluid Milk Products and Frozen Desserts. All milk, fluid milk products, ice cream and other frozen desserts should come from sources approved by the Public Health Service. Periodic lists published by the Public Health Service carry official classifications of the sanitation status of all sources reported in use by carriers. At the request of a carrier, additional sources will be investigated for inclusion in these lists.

All milk and fluid milk products should be presented to the customer either in the containers in which they were received originally from the distributor or as served from a bulk container equipped with an approved dispensing device.

c. Shellfish. All oysters, clams, and mussels purchased in the raw state for consumption on dining cars should originate with a dealer currently listed by the Public Health Service as holding an unexpired and unrevoked certificate issued by a State control agency. Periodic lists giving this information are published by the Public Health Service.

Shucked shellfish, if used, should be purchased in the containers into which they were placed at the packing plant and should be kept therein until prepared for serving.

15. PROTECTION OF FOOD. a. Storage. All food and drink in storage should be kept off the floor and protected from dust, droplet infection, overhead leakage and condensation, sewage backflow, and other forms of contamination.

b. Display and Serving. All food and drink should be handled and served in a manner which will prevent its contamination. Sliced butter and cracked ice should not be served with fingers or hands. Manual contact with food and drink should be avoided, insofar as possible. Food and drink containers should be covered whenever the contents are not being prepared or served.

All ice which comes in contact with food or drink should come from approved sources and should be kept free of contamination while in storage and when being handled. The ice sink or compartment should be used only for washing and storing ice that is to come into contact with food or drink. The use of ice in direct contact with drinking water shall be acceptable only in glasses or pitchers for table service.

c. Ratproofing. Dining car interiors should be protected from flies, roaches, rodents, and other vermin. If it is impossible to prevent their

Preparation for table service.

entrance, some method should be employed for exterminating them once they gain access to the interior of the car. Evidence of the presence of any vermin would indicate lack of satisfactory control measures.

If kept on the car, poisonous compounds used in the extermination of rodents or insects should be colored to facilitate identification and should be stored in such a manner as to prevent contamination of food or utensils. Poisonous insecticides and rodenticides should not be used when food is exposed. These compounds should be used only by competent personnel who are familiar with their toxic properties.

16. CLEANLINESS OF EMPLOYEES. The outer garments of all food service personnel who prepare or serve food, or handle utensils, should be kept clean and used only for dining-car duty.

All persons who prepare and serve food and drink, or handle utensils and equipment, should keep their hands clean during these operations.

Spitting or the use of tobacco in any form is prohibited in areas where food is prepared.

17. MISCELLANEOUS. Soiled linen, coats, and aprons should be kept in containers provided for that purpose.

Spaces where food is stored, prepared, or served should not be used for sleeping quarters. Pantries, kitchens, and bar areas should not be used for dressing rooms.

Personal articles of employees should not be stored in the kitchen or pantry.

18. DISEASE CONTROL. Any person who is known or suspected to be a carrier of, or in a communicable period of, any communicable disease shall be prohibited from working in a dining car. The same prohibition applies to any person known or suspected to be suffering from a gastrointestinal infection, or who has on the exposed portion of the body an open lesion or infection.

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